

The ESA Telecom Start-up Projects Initiative



SINEQUANET Workshop

8 December 2006

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ESA Telecom Department

- **ESA Telecom Introduction**
- **ESA Telecom Start-up Projects Initiative**
- **Support after Project Completion**
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- **Point of Contact**

ESA programmes

• All Member States participate in activities and a common set of programs related to the Space Science mandatory program

• In addition, members chose the level of participation in optional programmes:

- Human space flight
 - Microgravity research
 - Earth observation
 - **Telecommunications**
 - Satellite navigation
 - Launcher development



ESA Telecom Mission:

Promote Competitive Position of European and Canadian Industry in the Satcom Sector through the development of New Technologies, Products, Systems and Applications

Programmatic Instrument:

ARTES (Advanced Research in Telecommunications Systems)

ARTES is a highly flexible programmatic tool that allows multiple forms of participation. It is also designed to address various levels of proximity to market requirements

ARTES 1 = Strategy

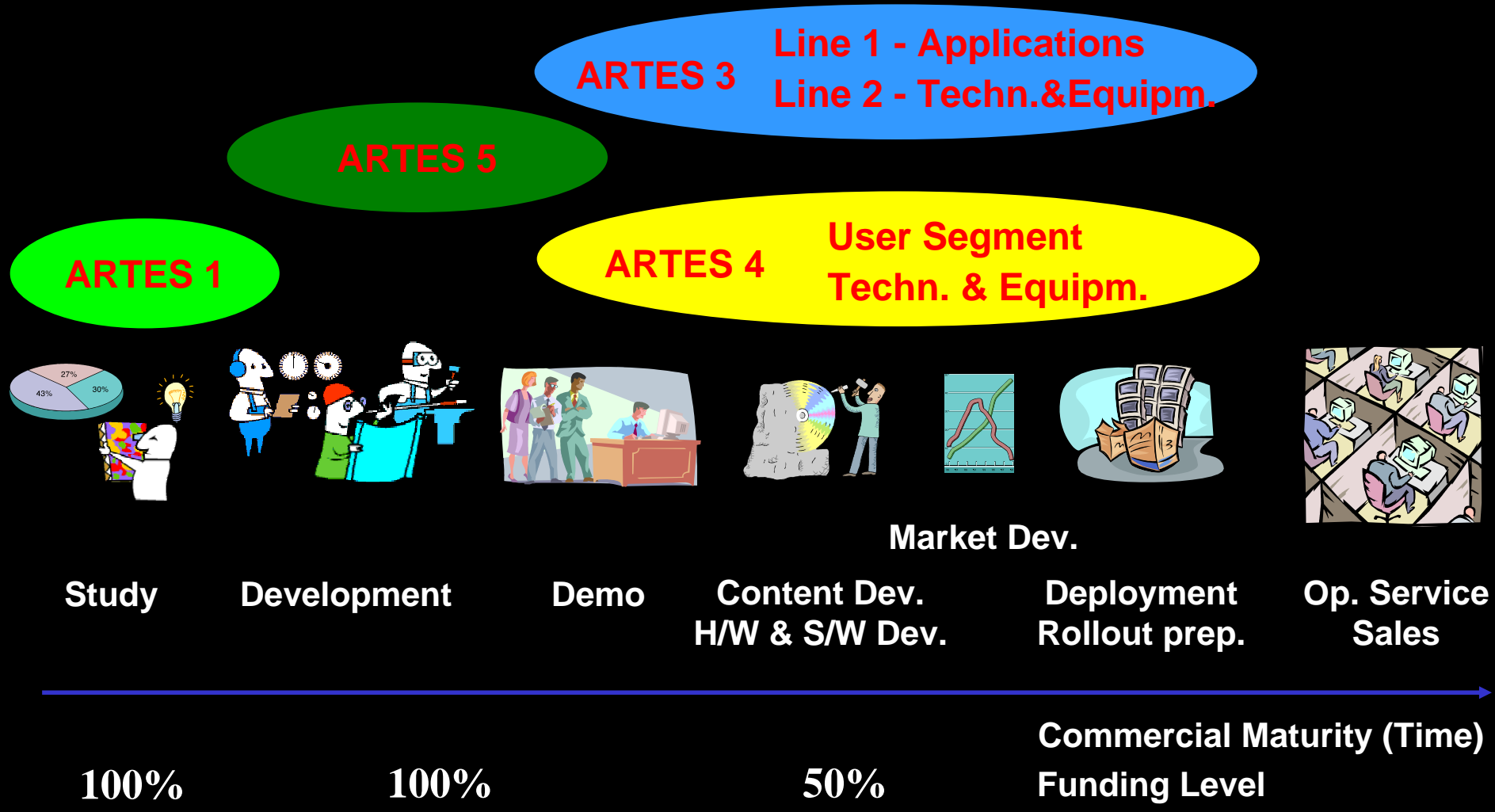
ARTES 3 = Multimedia

ARTES 4 = Partnership

ARTES 5 = Technology

ARTES 8 = Large Platform + Mission (project)

ARTES 11 = Small Geoplatform + Mission (project)



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} ESA Telecom Start-up Projects Initiative

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Objective: Attract and assist Small and Medium Enterprises (SMEs) to **develop business opportunities in the field of satellite communications** with special attention turned to companies who have never had a contract with ESA Telecommunications

Eligibility: **Small and Medium Enterprises (SMEs)** according to EC definition 2003/361/EC, of 6 May 2003 (OJ L 124, 20.5.2003, p.36),
Supported by respective National Delegation

Scope of activities:

Must be relevant for the satellite telecommunications sector
Must include the satcom component as an essential element:
space-borne equipment, ground segment, application/services involving telecommunication satellites

Support: Funding, technical support, networking contacts, financial training

Process: **Continuous open call** for proposals (revision of process ongoing)
2-step approach: Outline Proposal → Complete Proposal
Direct Negotiation mode (iteration process)

Proposals accepted in 2 categories of activities:

- 1) Validation of concepts in early stages of development involving innovative technologies with perceived high commercial and/or technical risks
→ 100% funding up to 300 (tbc) kEuro (ARTES 5)
- 2) Integration and demonstration activities based on existing technology tailored to pre-operational products, systems and applications/ services in a pre-competitive environment
→ 50% funding up to 150 kEuro (ARTES 4 or ARTES 3)

Activity duration: 12-18 months max.

Activity content: Defined by industry

Proposal content: According to **framework requirements** of Call for Proposal:

- Commercial Feasibility Analysis
- Product Development Document
- Product Validation Document
- Administrative, Management and Financial Document

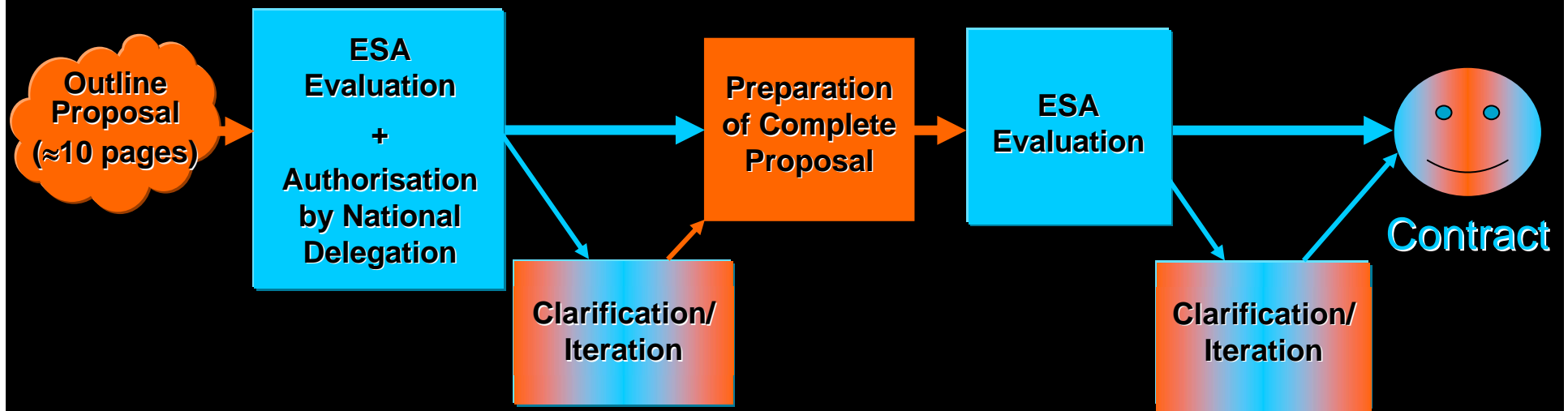
Content of Outline Proposal (~10 pages)

- Rationale of the business opportunity with the key commercial aspects, including potential target market, target customers, competitive environment & own positioning, market strategy
- Solution in terms of technology, product / service, position in the value chain
- Role of Satellite Communications (Satcom) within the activity
- Development approach, main requirements, description of starting point, elements to be developed, validation/qualification status at activity end
- Background and experience related to the particular activity
- Proposed partnerships & associated status of formalisation
- Indication of the funding scheme (50%, 100%) and justification (ESA will decide on the funding scheme along existing projects)
- Cost of the proposal (must not exceed 300 kEuro)
- Administrative information like contact details, partners / subcontracts planned (subcontractors in other countries need specific authorisation)
- Information on the SME status

Proposal Submission and Approval Process

Industry/Business actions

ESA actions



Initiated by
Industry

2 weeks

if necessary

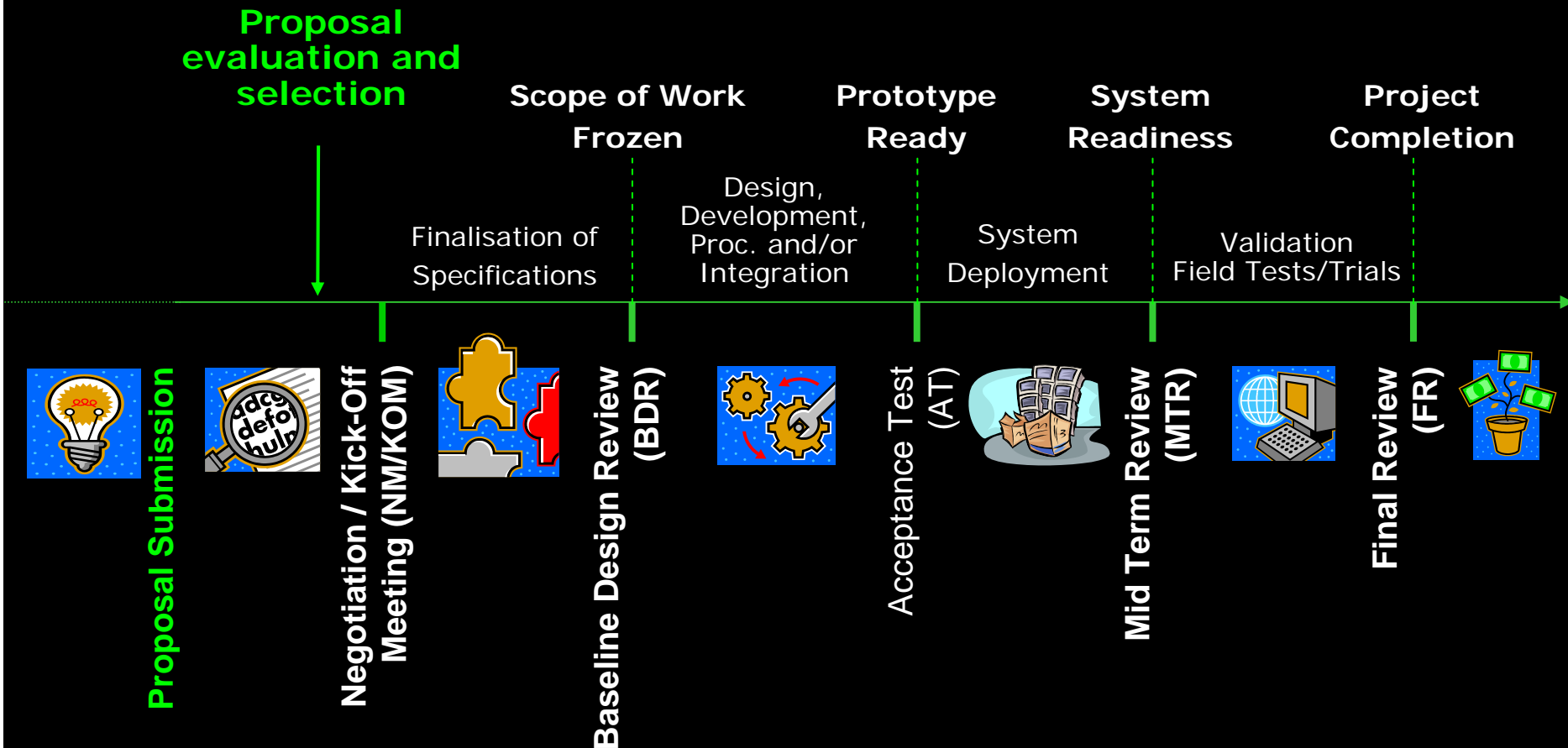
Initiated by
Industry

4 weeks

if necessary

4 weeks

Project execution: a common logical approach



Activities in 3 areas:

- Enabling Technology for Satcom:

space-borne equipment (limited): material developments, receivers, technologies
ground equipment: gateways, modulation, coding, satellite operations
user terminals and antennas: DVB-RCS, VSAT, antennas, modems, software

- Satcom Applications and Services:

Business-to-Business: Internet to ships, interactive TV, advertising, e-Learning
Community information services: video on demand, broadband for rural areas
Relief of disaster / emergency: alarm and surveillance systems
Satcom network systems: network management

- Location Based Communication Applications:

Infomobility services (based on positioning information):
alpine rescue service, fire fighting equipment, emergency call equipment

Contracts awarded in previous 6 rounds:

66 contracts, 12.1 MEuro

Project Web Pages & Final Reports under <http://telecom.esa.int/startup>

Challenges at the end of each Start-up Project:

- further developments need to be done to complete the product/service
- the product/service needs to be productionised to become ready for operational use
- partnerships have to be established for manufacturing, marketing, distribution
- the company has to survive for some time before the first product can be sold
- market / customer awareness and acceptance has to be created

=> Need for additional resources, esp. money

ESA Telecom offers additional support:

- Financial support in the **co-funded programmes ARTES 3 / ARTES 4** (after start-up project, companies have sufficient experience to submit regular proposals for ARTES programmes)
- **Networking** within the community of the ESA Telecom programs (regular workshops on various subjects, e.g. Start-up Projects, Applications, Protocols/IP, terminals)
- Access to **ESA Telecom experience** through known persons (e.g. technical officer, User Support Office, programme office)
- **Support tools** accessible on ESA Telecom Website (e.g. Business Tool Box – Fund Raising, Industry Contact Database)
- Market Development Support (e.g. **Venture Academy**, workshops with potential investors)

- **Reference Information**

Information on the revised process of this initiative will be available on the ESA Telecom Website by end January 2007 including links to project web pages of former rounds: <http://telecom.esa.int/startup>

- **ITT Documentation**

Official documentation will be issued on EMITS under 'Open Invitations to Tender' probably by end February 2007: <http://emits.esa.int>

- **Project Web Pages**

On the ESA Telecom website, quite a number of projects are presented with their project web pages to provide an impression on what kind of activities are run under the ARTES programmes:

<http://telecom.esa.int/telecom/www/object/index.cfm?fobjectid=222>

- **Training Tool**

On the ESA Telecom website a training tool is available providing information how to prepare a proposal:

<http://telecom.esa.int/telecom/www/category/index.cfm?fcategoryid=67>

- **ESA SME Initiative (ESA)**
- **SINEQUANET (ESA/EU)**
- **ITI - Innovation Triangle Initiative (ESA)**
- **NPI – Networking / Partnership Initiative (ESA)**
- **ESI & ESINET (ESA/NL & Investors)**
- **ESINET Fund (Investors/ESA)**
- **FinanceSpace (EC)**
- **INVESAT (EC & ESINET)**

Objective: Guarantee SMEs a share in ESA's technological activities,
Facilitate their access to technical facilities and tools,
Promote the participation of SMEs in ESA's space activities

Support:

- Dedicated technology programmes encouraging technology spin-in from SMEs (e.g. LET-SME = Leading Edge Technology – Small & Medium Enterprises, Innovation dedicated Announcements of Opportunities),
- Special procurement policies for SMEs in ESA's Invitations To Tender (ITT),
- Support for SMEs diversification (e.g. Technology Transfer),
- Training and Technical Assistance (e.g. How to write a good proposal, Quality Assurance, Software Engineering, etc),
- Forums and Information Networks (e.g. Industry Space Days)
- Access to ESA facilities and laboratories
- Development of new tools (e.g. SINEQUANET)

Contact: Ms Nora Bougharouat (Tel: +33 1 53697654, email: SME-UNIT@esa.int)

<http://www.esa.int/SME>

http://esamultimedia.esa.int/docs/industry/SME/SME_Brochure_EN.pdf

Objective: Create a network for SMEs which will broker (organise, structure, deliver) between the demand for services of various kinds and the sources which can supply those services

Support: Access to technical facilities, expert support and training services, leverage the expertise inherent within the space industry itself

Status: Project initiated by ESA and EC in November 2005
SINEQUANET is currently in its first phase including

- the definition of the needs of SMEs
- testing the concept through provisioning of concrete support to 2 SMEs
- creating a database of sources of expertise and suppliers of facilities/services
- creating a SME dedicated website (web portal under construction)
- holding a series of workshops in Europe
(to validate the concept and allow stakeholders to provide inputs)

First workshop on 30 May 2006 in ESTEC

Next workshop on 8 December 2006 in London (IET, Savoy Place)

Further workshops planned in Germany (February 2007) and Italy (March 2007)

Contact: Ms Nora Bougharouat (Tel: +33 1 53697654, email: Nora.Bougharouat@esa.int)
http://www.esa.int/SPECIALS/SME/SEM9U3BUQPE_0.html

Objective: Identification, validation and development of disruptive space innovations based on new ideas or concepts, giving preference to innovations coming originally from non-space industrial or research sectors

Support: Seed-money, technical support and networking contacts aiming at combining the creativity, know-how and experience of the Research Community, Space Customers and Industry (Triangle: Inventor – Developer – Customer)

Funding/duration/subject:

	50 kEuro	9 months	Proof of concept (inventors)
	150 kEuro	12 months	Demonstration of feasibility and use (developers)
<i>New</i>	<i>200 kEuro</i>	<i>12 months</i>	<i>Technology adoption (customers)</i>

Process: Next Announcement of Opportunity beginning of 2007 (continuous open)
3 submission rounds expected, 1.5 – 2 MEuro / year
open to industries from all member states

History: 2004/2005: 235 proposals received, 57 activities funded, 5.1 MEuro

Contact: Mr Marco Freire (ext: 6463, email: Marco.Freire@esa.int)
<http://iti.esa.int>

Objective: Increase interaction between ESA, European universities, research institutes and industry.

Enhance research for space applications and support potential 'spin-ins' for space from technologies developed outside the space sector in areas such as consumer electronics, material sciences, micro- and nanotechnology.

Support: Support technology developments in selected universities and research institutes:

- co-funding for research up to 50% or 30 kEuro/year for a doctorate degree or post-doctoral investigations,
- access to ESTEC laboratories for a minimum of 6 and a maximum of 12 months,
- technical support via access to ESA experts,
- networking through links provided by ESA and search for potential partners.

Process: ESA invitation to universities and research organisations to submit innovative proposals for research in any technical domain relevant to space,
Applications twice a year synchronised with the academic calendar,
Proposal template on request

Contact: Mr Jörg Wehner (ext: 4409, email: Joerg.Wehner@esa.int)

http://www.esa.int/SPECIALS/SME/SEM8889L6VE_0.html

Objective: Support entrepreneurs to establish start-up companies offering new services or applications emerging from the creative use of space technologies and/or systems in non-space sectors (technology transfer)

Support: Seed-money, technical expertise, ESA resources, business services, office space

Status: Founded in 2002, 35 partners (incubators) all over Europe, ESI at Noordwijk (NL) is hub of ESINET with current 22 incubatees
2007 transition to commercially based incubator planned

Funding/duration/subject:

~ 50 kEuro 6 months Elaboration of business plan

Process: Proposal submission at any point of time
Business proposal shall exploit space technologies of systems, and target non-space sectors (space technology transfer, new services making use of space systems, generic systems for better use of space systems on Earth)
Requirement for ESI (NL): company to be registered in NL

Contact: Mr Frank Salzgeber (acting head) (ext: 3910, email: Frank.Salzgeber@esa.int)
Ms Aude de Clercq (legal officer) (ext: 8662, email: Aude.de.Clercq@esa.int)
<http://esinet.atecmedia.com>

Objective: Provide dedicated equity financing in the form of early-stage venture capital to stimulate the development of companies using space technologies or satellite applications for non-space purposes

Support: Support from (300 ...) 500 kEuro to 5 MEuro (tbd)

Investment focus:

- space technology related businesses (technologies & satellite applications, non-space markets;
- ESA member states & EC countries
- seed funding & early stage funding

Status: Legal situation clarified

Venture Capital Fund - opening in 2007

Company to manage the fund recently selected (E-Synergy Ltd, London)

Management team to set up application procedures and to raise the funds

Fund size (planned) ~ 40 MEuro (of which 5 MEuro from ESA)

Fund lifetime ~ 8 years (with potential extension of 2 years)

First round of project presentations to VCs planned in April 2007, restricted to projects incubated in the ESNET network

Contact: Mr Frank Salzgeber (temporary) (ext: 3910, email: Frank.Salzgeber@esa.int)
website tbd

Objective: Bridging the divide between Space Technology opportunities and the financial support to them by encouraging and facilitating links between the European Space Sector, funding sources and innovative enterprises

Goals: Research and identification of sources of finance and actors with an interest in the European Space Sector
Market findings and tools to boost the amount of Space derived applications
Identification of weaknesses and barriers for co-operation in the market
Highlighting synergies between different market players
Recommendation on relevant policies to address those weaknesses
Stimulating investment in space technology, esp. technology spin-off

4 interactive round table meetings (2006: 1, 2007: 2, 2008: 1)
2 investment fora
Dissemination, publications

Status: 30 months project from January 2006 to June 2008
supported by 6th Framework Programme for Research & Technological Dev.
Partners: ESA (lead), ISU, MST Aerospace GmbH, Europe Unlimited, INBIS

Contact: Mr Gabrio Boerci (ext: 3910, email: Gabrio.Boerci@esa.int)
<http://www.financespace-innova.com>
<http://www.europe-innova.org>

Objective: Bridging the gap between INnovative Enterprises and Financial INVEstors in the emerging ICT markets of Satellite Applications (earth observation (GMES), navigation (Galileo), telecommunications)

Goals: Constitution of a dedicated network of key representatives from the space and finance communities
Providing entrepreneurs the knowledge for the development of successful business models in the field of space applications
Overcoming barriers for capital investment into innovative services from space
Catalysing innovation financing through entrepreneur's fora
Coaching of entrepreneurs on real cases in the network of space incubators

2 networking events (23 May 2006, 17/18 April 2007)
2 Investment fora (1st: 17/18 April 2007, 2nd: April 2008)

Status: 30 months project from January 2006 to June 2008
supported by EC DG Enterprise and Industry & ESINET
Partners: EBN – European Business and Innovation Centre Network (lead),
5 expert partners in satellite applications and finance (incl. ESA),
5 incubating structures + Business School of Finance and Management (D)

Contact: EBN, Mr Robert Sanders (Tel: +32 2 772 89 00, email: info@invesat.com)
<http://www.invesat.com>
<http://www.europe-innova.org>

**Point of Contact for any question related to the
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